

**Before the
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the Matter of)	
)	
Establishing the Digital Opportunity Data Collection)	WC Docket No. 19-195
Modernizing the FCC Form 477 Data Program)	WC Docket No. 11-10

COMMENTS OF THE CITY OF NEW YORK

I. INTRODUCTION

The New York City Mayor’s Office of the Chief Technology Officer and the Department of Information Technology and Telecommunications submit these comments on behalf of the City of New York (the “City”) in connection with the proceedings referenced above. The City appreciates the efforts by the Federal Communications Commission (the “Commission” or “FCC”) in its Second Further Notice of Proposed Rulemaking (“Second FNPRM”) to improve broadband data collection and reporting.¹ As noted in its prior comments to the First FNPRM,² the City generally supports proposals that would allow for more reliable and transparent comparison and assessment of broadband availability and deployment.³ As discussed below, the City submits the following recommendations to the Commission’s proposals regarding the: (1) accuracy of fixed and mobile broadband deployment data; (2) verification of mobile data; and (3) expansion and increased usability of public broadband data.

Access to up-to-date and reliable data is essential to the City’s own assessment of broadband service in New York City. The City’s goal, as articulated in its OneNYC plan, is to make sure that every New Yorker has a world-class connection to the internet and is able to benefit from that. To achieve this, we are investing in broadband infrastructure, creating new ways to bring service to all areas of the City, and providing education and resources allowing all New Yorkers to thrive online. Last April, the City released its *Truth in Broadband: Access and Connectivity in New York City* report, which used FCC Form 477 data, along with other publicly-available data, in its analyses.⁴ This report presents broadband access and connectivity in New York City according to five principles: Equity, Performance, Affordability, Privacy, and Choice. Specifically, the City

¹ Establishing the Digital Opportunity Data Collection and Modernizing the FCC Form 477 Data Program, *Report and Order and Second Further Notice of Proposed Rulemaking*, WC Docket Nos. 19-195 and 11-10, respectively (rel. Aug 6, 2019).

² Modernizing the FCC Form 477 Data Program, *Further Notice of Proposed Rulemaking* (“First FNPRM”), WC Docket No. 11-10 (rel. Aug. 4, 2017).

³ Reply Comments of the City of New York, submitted in WC Docket No. 11-10 (“NYC Reply”) (Oct. 24, 2017). The City does not reiterate or restate in detail the still-relevant recommendations made in its earlier comments; those comments are incorporated by reference herein and *available at* https://ecfsapi.fcc.gov/file/1024631803665/New%20York%20City_Reply%20Comment_477%20FNPRM_Final.pdf.

⁴ NYC Mayor’s Office of the Chief Technology Officer, NYC Connected, *Truth in Broadband: Access and Connectivity in New York City* (“NYC Broadband Report”) (April 2018), *available at* <https://tech.cityofnewyork.us/wp-content/uploads/2018/04/NYC-Connected-Broadband-Report-2018.pdf>.

used Form 477 data to measure the speed aspect of broadband performance, as well as to document choice options and where in the City different providers offer broadband service.⁵ However, as noted in the NYC Broadband Report, and in prior comments to the Commission, the City was unable to use the data to assess adoption and track the availability of broadband service, due to the lack of sufficient granularity in the data.⁶ Thus, the City welcomes efforts by the Commission to improve its broadband data collection so that New Yorkers have access to reliable, accessible information about broadband service that more accurately reflects their experiences.

II. IMPROVING THE ACCURACY OF FIXED (AND MOBILE) BROADBAND DEPLOYMENT DATA

The City, in its earlier comments, recommended that the Commission require fixed and mobile providers to submit more granular deployment data and to supplement such reporting with on-the-ground data verifying coverage.⁷ The City adds the following recommendations in response to the Second FNPRM: (a) for each and all types of broadband service, the Commission should establish technical standards for broadband reporting that ensure the accuracy and comparability of providers' data; (b) broadband-serviceable locations should include altitude in the definition for multi-tenant, multistory buildings; (c) penalties should be levied to discourage inaccurate reporting by broadband providers; (d) more, not less frequent reporting by providers should be required to ensure continually accurate deployment data; and (e) the Commission should allow bulk challenges by municipalities and organizations to ensure that complaint data is as comprehensive and representative as possible.

a. For each and all types of broadband service, the Commission should establish technical standards for broadband reporting.

The Commission should require reporting by all broadband service providers, regardless of size or technology deployed (e.g., terrestrial wireless, satellite broadband, etc.), in its new data collection. Further, the Commission should specify and standardize the technical parameters for the various broadband providers' deployment and availability data reporting to ensure accuracy and enable comparability across providers, where applicable. The City supports the inclusion of any and all technical parameters, including the additional applicable parameters for which the Commission sought comment in the Second FNPRM.⁸ For example, the Commission should require providers to submit raster data, in addition to shapefiles, when reporting deployment, allowing for consistency and ease of comparability of shapefiles created from rasters.⁹ As the Commission noted when citing the City's earlier comments, a standardized propagation model for 4G LTE and future-generation mobile broadband technologies that specifies median and edge speeds, along with other factors, is needed.¹⁰ For on-the-ground data, the City recommends that providers submit data on users' upload and download speeds, latency, and packet loss, along with other measurements specified by the Commission.¹¹

⁵ NYC Broadband Report at 8.

⁶ NYC Broadband Report at 9 and NYC Reply at 2.

⁷ NYC Reply at 2-4.

⁸ Second FNPRM at ¶¶ 81, 113-114, 116, 119, 122, and 129.

⁹ NYC Reply at 3. *See also* Second FNPRM at ¶ 118.

¹⁰ NYC Reply at 1.

¹¹ NYC Reply at 3.

b. The Commission should define location using latitude, longitude, and altitude in multi-tenant, multistory buildings.

In New York City, service deployment or availability at one area within a multi-tenant, multistory building does not necessarily indicate service across that building. In such buildings, an accurate understanding of deployment and availability requires that location be defined using altitude as well as latitude and longitude because customers' coverage may vary along any of these dimensions – a point that is especially clear when we consider mobile broadband coverage.¹² Ask a mobile customer in New York City whether their cell phone has voice or broadband coverage in their building and you are likely to hear that the answer depends on *where* in the building: coverage might be better in the lobby than in a tenant's unit, for example. To support the production of accurate and more granular data, any location database implemented by the Commission should include altitude in the definition of a broadband-serviceable location for multi-tenant, multistory buildings.¹³ Deployment reporting by providers should also reflect altitude within such buildings. The Commission should further ensure that adequate protections are in place to safeguard consumer personally-identifiable information that may be part of this data collection.

c. The Commission should penalize intentional and unintentional reporting errors.

The City appreciates the Commission's effort to improve the accuracy of broadband data by allowing consumers to challenge providers' coverage claims. Local stakeholders and the public have a strong interest in data that is accurate as soon as it is released – something only providers and the Commission can ensure during the initial submission process. To incentivize the reporting of accurate deployment data, the City recommends that the Commission penalize providers for reporting errors, whether intentional or not.¹⁴ Reporting errors from service providers that overstate broadband availability, deployment and coverage significantly impact the City's ability to accurately assess adoption and address gaps in service for New Yorkers and deter private investment from potential competitors.¹⁵ Any enforcement and compliance program should include penalties and remedies that are sufficient to deter non-compliance and not so miniscule as to constitute a "normal" cost of doing business for providers. For the Commission's proposed online portal to serve as a useful tool for consumers to compare providers' availability and for local policymakers to assess where there are gaps in broadband service, deployment and availability data must be consistently accurate, not accurate only if or when consumer complaints force providers to correct initially inaccurate service reports.

d. The Commission should require more, not less, frequent reporting by providers.

The City requests that the Commission adopt a reporting timeline that is sufficiently frequent to ensure that accurate and useful broadband data is available to the public. Timely information is essential for consumer

¹² Second FNPRM at ¶¶ 102.

¹³ Second FNPRM at ¶¶ 102-103. Neither Alexicon's proposal to broaden the definition of location (Second FNPRM at ¶ 101) nor the Broadband Coalition's location database proposal (Second FNPRM at ¶ 109) include altitude within the definition of a serviceable location.

¹⁴ Second FNPRM at ¶ 83.

¹⁵ See, e.g., *Ex Parte* Comments of Free Press, submitted in GN Docket No. 18-238 (Mar. 5, 2019) (referencing erroneous Form 477 data filed by a broadband provider that overstated its deployment in several states, including NY). Available at <https://ecfsapi.fcc.gov/file/10306056687881/Free%20Press%20706%20Report%20Form%20477%20Erroneous%20Data%20ex%20parte.pdf>.

decisions, private investment decisions and the City's own policymaking and budget cycles. At a minimum, provider reports should be due within six months of any new deployment. The Commission should also ensure that any up-to-date information is made available on its online portal in a timely manner – the most recent FCC Form 477 data available on the Commission's website is over a year old.¹⁶

e. The Commission should allow the filing of bulk challenge data.

Voluntary submissions of complaint data by consumers should be part of the Commission's overall data verification process and supplemented by filings of bulk challenges from stakeholders, including municipalities and organization.¹⁷ Individual complaints may not provide a representative or comprehensive picture of errors in providers' reporting data. To increase complaint data's usefulness in ensuring accurate broadband information, the Commission should allow municipalities and organizations to file bulk challenge data.

III. IMPROVING THE VERIFICATION OF STANDARDIZED MOBILE DATA

The City continues to support a standardized propagation model for mobile data reporting, which will enable more meaningful comparisons of mobile providers' data.¹⁸ The City further requests that the Commission include any and all technical parameters (e.g., upload and download speed, cell loading, probability of coverage, signal strength) that are sufficient to demonstrate coverage and to allow for meaningful comparisons across providers.¹⁹ The City also appreciates the Commission's interest in using several methods to verify the accuracy of standardized mobile deployment data, especially given the Commission's observation that a "growing number of parties have suggested that mobile broadband coverage maps are inaccurate and have urged the Commission to implement mechanisms to verify provider data."²⁰ Increasing small cell deployments and the use of millimeter wave for mobile service are likely to exacerbate this problem in urban areas by creating stark disparities in coverage and quality over small distances. To ensure that providers' modeled data accurately reflects the actual state of mobile coverage, the City supports: (1) the Commission's proposal to verify modeled data by requiring mobile providers to report infrastructure information upon Commission request,²¹ and making this data accessible to state and local governments; (2) the use of on-the-ground verification methods such as drive testing, and notes the need to verify methods' accuracy in the types of built environments where they will be deployed;²² and (3) the Commission's efforts to elicit voluntary speed-testing by consumers and local governments but discourages overreliance on verification via crowdsourcing alone.²³

¹⁶ June 2018 Fixed Broadband Deployment Data from FCC Form 477, available at <https://www.fcc.gov/general/broadband-deployment-data-fcc-form-477> (last visited September 17, 2019).

¹⁷ Second FNPRM at ¶¶ 97-98.

¹⁸ NYC Reply at 1. See also Second FNPRM at ¶ 114.

¹⁹ Second FNPRM at ¶ 116.

²⁰ Second FNPRM at ¶ 119.

²¹ Second FNPRM at ¶ 119.

²² Second FNPRM at ¶¶ 121-122.

²³ Second FNPRM at ¶¶ 123-124.

IV. EXPANDING AND IMPROVING THE USABILITY OF BROADBAND DATA

The City renews its request that public data be searchable, verifiable, and standardized.²⁴ In particular, with respect to searchability, the City requests that users of the Commission's online portal be able to use a lookup tool²⁵ and that this tool's outputs include data visualizations. The City additionally recommends that the Commission: (a) expand access to and make available more public data; and (b) retain Form 477 data and make it more easily sortable, and offer CSV files in addition to shapefiles, whether or not Form 477 is sunset, to maintain the data's usability by the public.

a. The Commission should expand access to and make more available public data.

The City generally supports Commission proposals in the Second FNPRM that would expand public and local stakeholder access to more broadband data, including cost, subscription, and service quality data, with strong data protections in place to ensure the privacy and security of any consumer personal information and sensitive data collected. For example, the City supports the Commission's proposals to require mobile subscription data be broken out by category (e.g., enterprise, government, wholesale, prepaid retail, or postpaid/reseller retail, etc.)²⁶ and for mobile providers to report whether subscriptions are data only, voice only, or provided as a bundle.²⁷ As the Commission notes, this data will provide a better understanding of consumers' adoption of mobile services and of the marketplace for competitive analysis and consumer protection. All data needs an aggregate level that is public.

Should the Commission decline to make any new data collection data public (e.g., because it is deemed competitively sensitive), the Commission should still grant state and local governments access to such data.²⁸ As the City has previously stated, full access to broadband data allows state and local authorities to develop well-reasoned, data-supported policies to speed the deployment and availability of broadband service, and reduces burdens on providers by enabling states and localities to take advantage of data that has already been collected.²⁹

b. The Commission should retain Form 477 data and make it more easily sortable and usable to the public.

The City does not recommend retiring Form 477 data until the Commission's new data collection is well-established.³⁰ To make Form 477 data more useful to the public, the Commission should provide more geographic scales for analysis. Specifically, data should be able to be analyzed by state code, county code, census tract, census block, census block group, and geographic identifier – numerical values already included in Form 477's BlockCode. While expert users can already sort data by these fields, usability by the public will be increased by including each geographic scale as an individual column in Form 477 CSV files, allowing these geographies to be more readily found and queried.

²⁴ NYC Reply at 1,3, and 5. *See also* Second FNPRM at ¶131.

²⁵ Second FNPRM at ¶ 108.

²⁶ Second FNPRM at ¶¶ 132-133.

²⁷ Second FNPRM at ¶ 132.

²⁸ Second FNPRM at ¶¶ 111 and 120.

²⁹ NYC Reply at 6.

³⁰ Second FNPRM at ¶135.

Shapefiles for large geographies and for areas with large populations are also large, especially relative to their more compact CSV counterparts. For usability by the public, as well as for historical and trend analysis purposes, the CSV files' underlying Form 477 data should remain available to the public, whether or not Form 477 is sunset. Further, shapefiles should reflect data for all providers serving an area within one file, much as Form 477 data collects all providers' deployment data for an area in one CSV file. For users of the new data collection's shapefiles, the Commission should make available a shapefile with all provider-reported information combined, in addition to the individual provider-based shapefiles.

V. CONCLUSION

The City welcomes the Commission's ongoing efforts to enhance broadband data collection and reporting. Improving the accuracy and usability the data is critical for realizing the common goal of making universal broadband service a reality.

Respectfully,

The City of New York
September 23, 2019